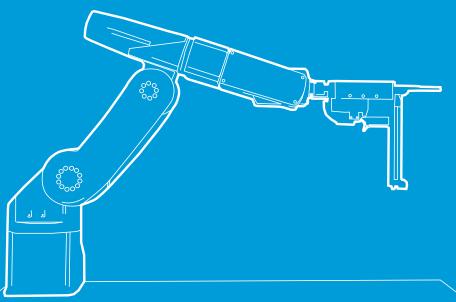


BeA Professional Tools and Fastening Systems

BeA Autotec

Automation Technology







BeA Autotec Efficiency in Automation

Individual solutions from the market leader

The cost and efficiency pressure in the production of furniture and frames as well as in the production of window and door elements requires a very high degree of automation in fastening technology. Numerous fastenings can be automated to a high degree: from short term fastening of the top and bottom layers for further processing to permanent joining of materials.

We supply automotive manufacturers and suppliers with certified products that meet the high demands of our manufacturers. Our coil and strip nailers for the packaging and construction industries are incredibly robust and are extremely "tough".

We integrate our systems into your manufacturing environments. In automation technology, we are Number 1 in the world with BeA Autotec and have brought pioneering innovations into the market over recent years. From the exchangeable cassette up to the 200 mm long, wide back staple for fixing insulation boards up to 160 mm, large coils with up to 900 nails to automatic loading stations using robotic arms – our automation know how is part of our corporate DNA.

BeA is a member of the following associations:







































Joh. Friedrich Behrens AG, Ahrensburg, Germany





BeA International





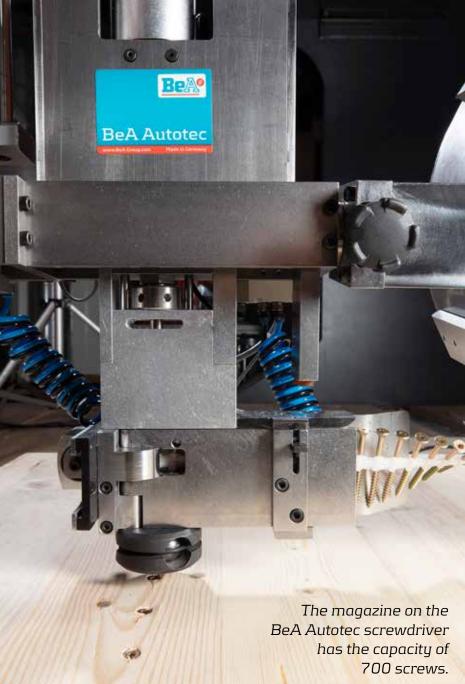


- Own development of our machines, tools and fasteners
- Own production in Germany and Europe
- 14 subsidiaries
- 3 branch offices, 5 joint ventures
- Distribution partners in 40 countries

- 20,000 customers worldwide
- Highest service and expert advice
- Quick and reliable delivery
- Market and quality leader in Europe
- More than 100 years experience in fastening and technology
- Family run company

Please contact our experts to enquire about our extensive product range.

Joh. Friedrich Behrens AG, Industrial Fastening Systems Bogenstraße 43 – 45, 22926 Ahrensburg, Germany Tel. +49 (0) 4102 78 – 445, Fax +49 (0) 4102 78 – 270 info@behrens-group.com, www.bea-group.com





For coil screws 35 – 80 mm

- Preset penetration depth +/- 2 mm, adjustable in 0.25 mm steps
- Optimal screwing performance
- Noise reduction
- Jumbo coil magazine (700 screws)
- Optimal screw alignment through screw guide

Applications

All applications which require flush setting of the screws, e.g. planking of stud frames with Fermacell, chipboards, etc. in the prefabricated house industry



BeA Autotec screwdriver



Highest quality + ideal solutions

BeA – Automation Technology

MORE POWER AND EVEN MORE PRODUCTS

BeA Pusher

for Nails 0° TCIN, K-Coil and W12



BeA 246/284 SL

with change-over cassette for Staples 246 [100 - 160 mm]



BeA 346/284 SL

for Staples 346 (200 mm)





BeA Autotec strip nailer type 296 with reloading station type 297

For strip nail lengths 130-160 mm until 05 mm, magazine capacity 2 strips (40 nails)

Reloading of the nails into the magazine happens automatically utilizing a cassette type 297. This cassette has a capacity of 90 strips (equals approx. 1,800 nails). For a quick change from one nail length to a different nail length additional cassettes are available which can be preloaded whilst not in use. Filling of the nail cassette (straight out of the carton) is possible in no time. The loading station automatically senses the position of the nail head and feeds it correctly into the magazine of the nailer.

Applications

Crating, heavy duty wooden packaging (pallets etc.) and the prefabricated housing industry

Numerous applications - Optimal solutions - One supplier

- Innovative Autotec tools
- High quality standard
- Optimal tailor-made solutions
- Strict quality management
- Increased productivity thanks to high magazine capacity
- High speed of 10 staples/sec.
- Fast loading times
- Service on site

	Description	Capacity	Length from-to	Fastener Type
New	BeA Autotec Screwdriver	700	35 - 80 mm	4-5 mm
	BeA Autotec Pusher Optionally available for corrugated nails type W12-K-Coil	1000	35 - 50 mm	35 - 60 mm
	246/284 BeA Autotec with change-over cassette	550	75 - 160 mm	09 1 - 52 2.21 x 1.84
	346/284 BeA Autotec	600	200 mm	33
	264/284 BeA Autotec with change-over cassette	up to 2,300	25 - 80 mm	25-80

 Description	Capacity	Length from-to	Fastener Type
258/268/288 BeA Autotec for BDC jumbo coils	up to 900	30 - 130 mm	30-130
238/248/268/270 BeA Autotec Strip nailer	up to 400	12 - 120 mm	12-65
230/240/260 BeA Autotec Top loader	up to 10,000	4 - 65 mm	4 - 65
232/242/262/282 BeA Autotec Side loader	up to 2,300	4 - 110 mm	W 24.8 W 24.8

Description	Capacity	Length from-to	Fastener Type
235/245/265/285 BeA Autotec Long magazine	100-500	4 - 200 mm	4 - 200
239 BeA Autotec stationary clinching unit	up to 500	4 – 25 mm	4-25
236/246/266/296 BeA Autotec Robot nailer with reloading station 237/247/267/297	up to 30000	6 - 160 mm	20-65
BeA Autotec strip nailer 296 with reloading station 297	up to 1800	130 - 160 mm	130-160



BeA Automated Fastening Systems – reaching beyond standard solutions

BeA robot nailer with reloading station

For staples and pins

Incorporates fully automated production processes by being mounted on either multi axis robots or X/Y/Z linear units.

- Small dimensions and low weight accommodate easy handling and high process speeds. The automatic reloading feature minimizes the tool's weight by carrying only the necessary amount of fasteners per cycle
- Placement and stapling possible in any position and orientation
- Very high capacity of the stationary reloading unit (up to 30,000)

Applications:

Furniture industry, automotive, moulds for sand casting, specialty crate manufacturing



BeA Automated Fastening Systems - Highlights

- 2019 first BeA Autotec Screwdriver
- 2018 first BeA Autotec Pusher which allows an extremely precise adjustment of nail depth
- 2015 first automatic reloading station for 20 degree strip nails used in a robotic Autotec strip nailer solution
- 2014 first BeA Autotec tool for staples with a diameter of 3.0 mm
- 2003 first BeA Autotec tool for wide crown staples
- 1999 first BeA Autotec tool with change-over cassette
- 1989 first BeA Autotec tool

BeA Autotec Screw driver

For coil screw length 35 - 80 mm, Ø 4 - 5 mm

- Preset penetration depth +/- 2 mm, adjustable in 0.25 mm steps
- Optimal screwing performance
- Noise reduction
- Jumbo coil magazine
- Optimal screw alignment through screw guide

Applications: All applications which require flush setting of the screws, e.g. planking of stud frames with Fermacell, chipboards, etc. in the prefabricated house industry

Description	Autotec Screw driver	
Magazine and Capacity	Coil magazine, capacity 700 screws	
Actuation mode	Electronically via signal	
Fastener type	Screws	
Length	35 - 80 mm	
Diameter	4 – 5 mm	
Working pressure	6 - 8 bar	
Motor power	1.5 kW	
Rotational speed	3000 U/Min	
Power supply	400 V three-phase alternating current	
Torque	5 Nm	
Screws per second	1	
Distance to panel while moving	25 mm	



Jumbo coil: Magazine capacity 700 screws







BeA Autotec Pusher for 0° TCIN Nails

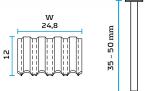
Ø 2.1 – 2.8, L: 35 – 50 mm, Head-Ø: max 6.2 mm

- Elevation adjustment up to 30 mm
- Adjustable penetration depth +/- 2 mm
- Optimal nailing performance
- Fast pushing technology >2 nails/sec
- Noise reduction
- Jumbo coil magazine
- Nail guide ensures 90° nail position while pushing
- Also available for corrugated nail type W12 and K-coil

Applications: Applications where flush nail drives are needed: Fire protection boards, plaster, gypsum boards and facades

NAILS 0° TCIN

Nails	Magazine capacity	Frequency	Compression force
Ø 2.1 - 2.8 mm	1 Jumbo Coil	max 2 /sec	350 - 500 kg



BeA Autotec 246/284 SL

For 246 Staples, L: 75 - 160 mm, Crown-Width: 27.3 mm

- Insulation and ETICS installation
- Fasten boards up to 130 mm
- Enhanced productivity and quality
- Up to 2 staples per second
- Minimized change over and reload times with high capacity cassette magazine

Applications: Insulation fixing in timber frame fabrication wood fibre and polystyrol boards < 130 mm



STAPLES 246

Length	Magazine type	Frequency/Sec
75 - 160 mm	Cassette	max 2 /sec



BeA Autotec offers a large program of products, systems and solutions, tailor-made individually according to your needs and production type. Outstanding application for the prefabricated house furniture, automobile and electrical industries, packaging, wood to wood components and many more.



BeA Autotec 346/284 SL for insulation fixing in automated panel and element production

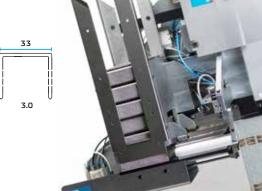
- Insulation and ETICS installation
- Fasten boards up to 160 mm
- Enhanced productivity and quality
- Up to 2 staples per second
- Minimized change over and reload times with high capacity cassette magazine

Applications: Insulation fixing in timber frame fabrication wood fibre < 160 mm



STAPLES 346

Length	Magazine type	Frequency/Sec
200 mm	Cassette	max 2 /sec





BeA Autotec tool with change-over cassette 264 / 284

Magazine capacity: up to 2,300 staples Leg lengths: 25 - 80 mm

- Compact design
- High speed reloading
- Low maintenance
- Long operating life
- Frequency up to 10 staples per second
- Electronic placement and magazine control

Applications: Specifically designed for in plant house manufacturing



90

BeA Autotec tool for jumbo coils

Magazine capacity: up to 900 nails Plastic and Wire collated Nail lengths: 45 - 90 mm

- High magazine capacity
- Electronic placement and magazine control
- Accurate nail placement
- Low maintenance
- Long operating life
- Frequency up to 4 nails per second

Applications: Prefabricated houses, furniture frames, pallets and crates

BDC NAILS

Nails	Magazine capacity	Frequency/sec.	Air consumption
Ø 2.5 - 3.4 /	1 jumbo coil /	max 4 /sec	2.5 - 4 litres
45 - 90 mm	750 – 900 Nails		at 6 bar

TC NAILS

Nails	Magazine capacity	Frequency/sec.	Air consumption
Ø 2.5 - 3.1 /	1 jumbo coil /	max 4 /sec	2.5 - 4 litres
45 - 90 mm	750 – 900 Nails		at 6 bar





BeA Autotec tool strip nailer

Magazine capacity: up to 160 nails, leg lengths: 50 - 100 mm

- Adjustable magazine capacity
- Electronic placement and magazine control
- Low maintenance
- Long operating life

Applications: Prefabricated houses, furniture frames, pallets and crates

ROUND HEAD NAILS

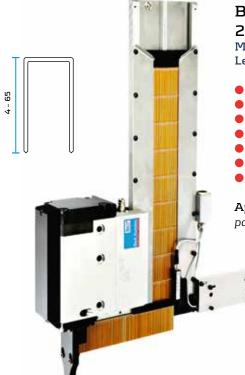
Nails	Magazine capacity	Frequency/sec.	Air consumption
Ø 2.8 - 4.1 / 50 - 100 mm	120 Nails	max 4 - 5 /sec	3.5 - 4 litres at 6 bar

D-HEAD NAILS

Nails	Magazine capacity	Frequency/sec.	Air consumption
Ø 2.9 - 3.4 / 50 - 100 mm	160 Nails	max 4 - 5 /sec	3.5 - 4 litres at 6 bar

The BeA Autotec system offers the following benefits:

- Precision German manufactured equipment that guarantees performance reliability.
- Automated staple signal input, either 24V DC or pneumatic
- Individual energy adjustment of the stapler head to the specific application
- Wide array of accessories, including electronic placement and magazine control, edge guides, rollers, etc.
- Reduces your manufacturing costs through
 - Customized design
 - Installation into new or existing equipment
 - Availability of customized components and accessories for tool mounting and fastener application

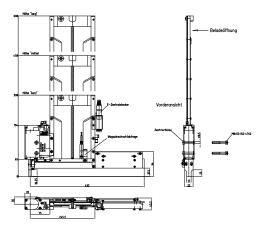


BeA Autotec tool top-loader 230 / 240 / 260 / 280

Magazine capacity: up to 10,000 fasteners Leg lengths: 4 - 65 mm

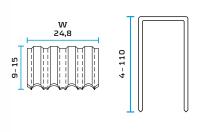
- High magazine capacity
- Minimal reloading time
- Electronic placement and magazine control
- Frequency up to 8 staples per second
- Multiple mounting options facilitate installation
- Low maintenance
- Long operating life

Applications: Prefabricated houses, furniture, packaging, pallets and crates









BeA Autotec tool side-loader 232 / 242 / 262 / 282

Magazine capacity: up to 5,000 fasteners Leg lengths: 4 - 110 mm

- High magazine capacity
- Automatic reloading avoid time intensive manual reloading
- Electronic placement and magazine control
- Frequency up to 8 cycles per second
- Multiple mounting options facilitate installation

Applications: Prefabricated houses, furniture, packaging, pallets and crates

Increase of output

- Decrease of manufacturing costs
- Higher quality level
- High flexibility
- Increased productivity
- Reduced change-over times
- Low maintenance

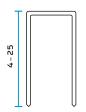


- - Placement and stapling possible in any position and orientation Various leg lengths can be loaded without further adjustments
 - Electronic placement and magazine control
 - High speed fastening frequency up to 10 staples per second
 - Multiple mounting options facilitate installation
 - Low maintenance
 - Long operating life

Applications: Prefabricated houses, window and door frames, packaging, furniture, pallets and crates







BeA Autotec tool - Long magazine unit

Magazine capacity: 300 - 500 staples Leg lengths: 4 - 25 mm

Stationary unit, available in automatic or foot-pedal actuation Hands free operation facilitates proper feeding and alignment

- Contact actuation
- Foot pedal actuation
- Available as double clinching unit
- Up to 5 tools on one unit

Applications: Packaging, blister packaging, low volume assembly



130-160

Description	Length in mm
R20 3.8 x 130 BK	130
R20 3.8 x 130 BK Screw	130
R20 3.8 x 130 BK Ring	130
R20 3.8 x 130 NK	130
R20 4.2 x 130 BK	130
R20 4.2 x 160 BK	160
R20 4.6 x 145 BK	145
R20 4.6 x 160 BK	160
R20 4.6 x 160 BK Screw	160
R20 4.6 x 160 NK	160

BeA Autotec strip nailer 296 with reloading station 297

For strip nails type R20 in lengths 130 - 160 mm Ø 3.8 - 5.0 mm

BeA Autotec strip nailer 296

- Magazine capacity of 2 nail strips
- Magazine contol
- "Dry firing" control
- Multi directional nailing possible

Reloading station 297 with automatic nail feeding

- Reloading and feeding of the nails happens automatically using a cassette type holding bay for 90 nail strips (approx. 1,800 nails)
- Filling of the nail cassette (straight out of the carton) takes little time
- The loading station automatically corrects the position of the nail strip and feeds it correctly into the magazine of the nailer

Applications: Crating, heavy duty wooden packaging (pallets etc.) and prefabricated house industry



BeA automated fastening systems for pallets and crates

We integrate our customer fit fastening systems into automated production lines for the production of pallets and wooden packaging. We do not only supply the hardware, which are modified coil or strip nailers, but also develop individual solutions in cooperation with our clients and the manufacturer of the production line.

Using flexible production bridges of well known manufacturers, such as **Errebi** and **Rimac** in Italy, **K. Stroj** in Czech Republic, or in robot systems of the latest generation by **Ekatech** in Sweden – the BeA automated fastening systems work reliably and durably. Continuous use is no problem for our tools. Service and maintenance, as well as quick replacement are essential for us.

BeA automated solutions can be integrated in nearly every production line. Our experience in the field of industrial fastening solutions is based above all on close cooperation with our customers – to your advantage!



Our know-how - your advantage:

Perfectly harmonized: Fastener type – tool – production line. This is the BeA formula for minimized reloading time, longer service intervals, safe working environment and absolute reliability.

Quick and safe: Integrated fastening solutions with up to 10 cycles per second. Safety during the working process thanks to separation of man and machine.

Effective and integrated: A robot system integrates a complete production line. Single operator usage – for handling, controlling, reloading and retooling.

Productive and flexible: In only a few minutes the production lines and robot systems can be adapted. Small batch series and special products do not need to be produced manually any more.





Magazine Selection for BeA Autotec

The selection of the magazine depends on:

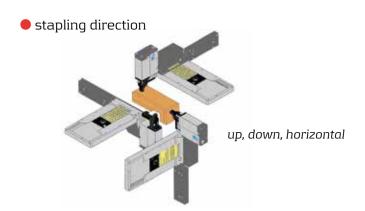
type and available space within the mounting system











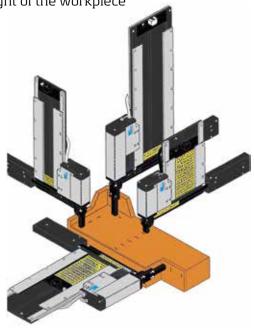
available space for reloading





Selection of nose length

The nose length depends on the height of the workpiece



Magazine types



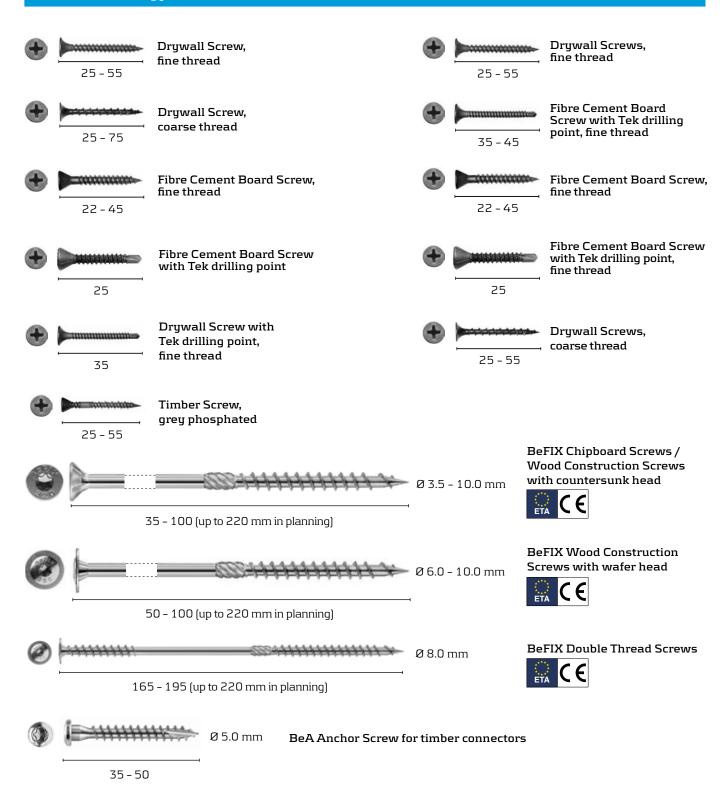
Please contact our experts with any questions you may have or to enquire about our extensive product range:
+49(0)4102 78 445





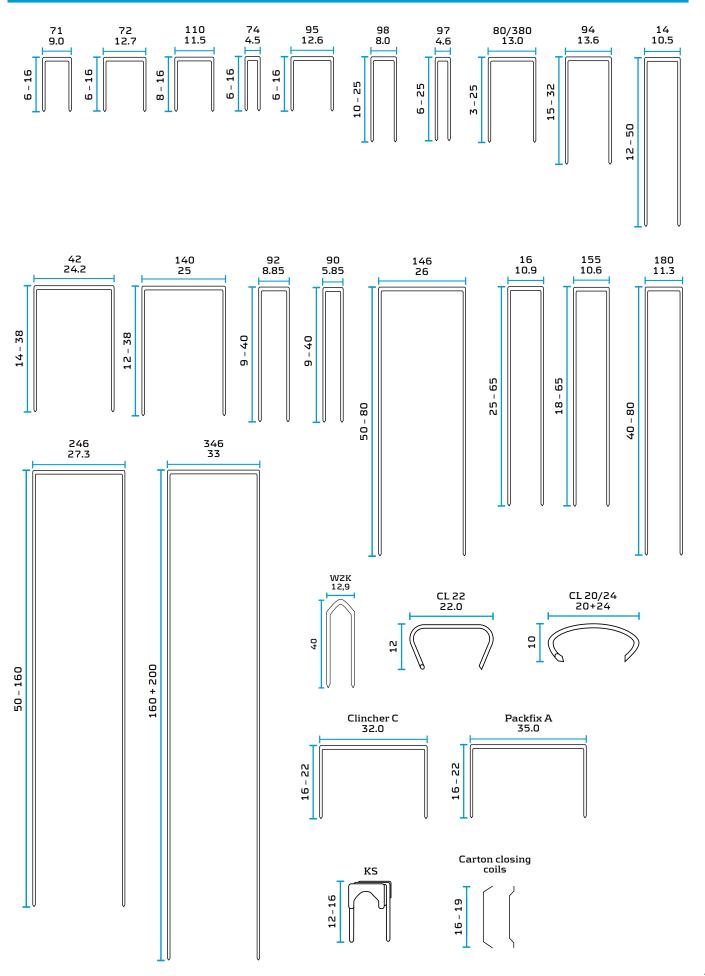


BeA Fastener Type



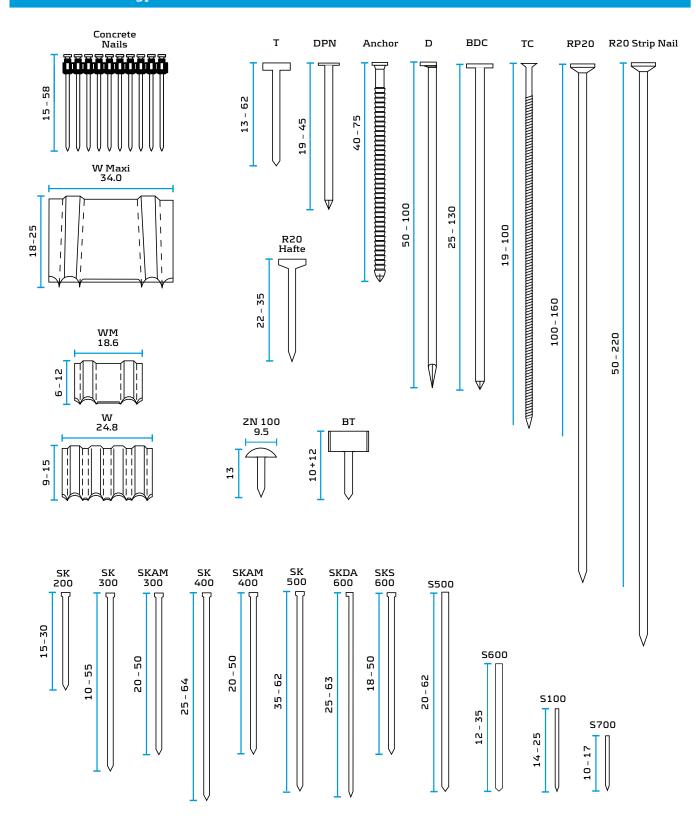


BeA Fastener Type





BeA Fastener Type



Further fasteners available on request



General Terms and Conditions of Business

The following General Terms and Conditions of Business (T&Cs) of Joh. Friedrich Behrens AG (hereinafter referred to as the "Supplier") form part of the agreement by mutual consent; they take precedence over any deviating terms set by the buyer (hereinafter referred to as the "Customer" or "Buyer"). This shall also apply if the Supplier provides services which deviate from the General Terms and Conditions of the Customer.

Terms and Conditions of Sale and Delivery

1. Order placement

- 1.1 An agreement shall only enter into effect upon written confirmation by the Supplier or upon execution of an order. Changes, additions and subsidiary agreements to the contract must be made in writing. This shall also apply to this clause.
- 1.2 The Buyer is liable for the accuracy of all documents provided by him, in particular for any drawings, instructions and samples. The Buyer must notify the Supplier of any obvious defects by providing measurements and calculations in good time prior to implementing the order. The Supplier is not obliged to examine the item.
- 1.3 Samples will be provided at additional cost unless otherwise agreed.
- 1.4 Figures, drawings, images and service descriptions provided in brochures, catalogues, price lists or documents relating to the order are approximations in keeping with standard commercial practices.

2. Performance period, impossibility, delay

- 2.1 The delivery dates specified by the Supplier shall be viewed as approximates unless a fixed delivery or performance date has specifically been agreed. A delivery date is considered as met if the goods are handed over to the Customer by the time agreed in Clause 5.2 or upon the Customer receiving notification that the goods are ready to ship.
- 2.2 In the event of subsequent amendments to the contract which could have an effect on the term of the contract, the latter shall be extended accordingly.
- 2.3 If the Supplier is unable to fulfil their obligation to deliver as a result of unforeseen, extraordinary events which, despite taking precautions reasonable for the circumstances in the specific case, are beyond their control regardless of whether they occur at the Supplier's factory or at the premises of its subcontractors, in particular official interventions, operational disruptions, work disputes, delays to delivery of raw and auxiliary materials or force majeure the delivery date shall be extended accordingly. If the execution of the contract is unreasonable for any of the parties due to the above-mentioned events, in particular if the execution of the contract is delayed substantially by more than 6 months, that party may request to withdraw from the contract.
- 2.4 If the Supplier does not receive the specific goods for fulfilling an order, or delivery of these is delayed or damaged, he is released from his obligation to supply the sold goods provided that he has taken the necessary steps to ensure timely self-delivery. The Supplier shall be responsible for immediately informing the Buyer in the event of non-availability and proceed with the prompt reimbursement of any services in return already provided.
- 2.5 If the Supplier is at fault for non-compliance with delivery dates or deadlines, the Customer may withdraw from the contract after fruitless expiry of a written, appropriate extension of the deadline. The Buyer may request compensation for damages in accordance with Section 12 of these T&Cs only. The same shall apply for other impossibilities of the Supplier.
- 2.6 In the event of impossibilities of the Supplier, the Buyer shall be obliged to reimburse the Supplier for any services carried out thus far based on the fair market value. The same shall apply if the Supplier is entitled to withdraw from the contract due to contractual or legal guidelines. Additional rights of the Supplier shall remain unaffected.

3. Pricing

- 3.1 Unless otherwise agreed, all prices are understood to be ex-works and exclusive of packaging, shipping, postage and insurance. All prices are quoted exclusive of statutory sales tax.
- 3.2 If prices are not quoted or are to be at "current list prices", the list prices valid at the date of delivery will be charged. If the agreed price is not based on a list price but an agreement between the contractual parties, and the list price, market price or price for a subcontractor service has increased by more than 5% since the point of conclusion of the agreement, the Supplier can request that the agreed price be adjusted accordingly (exemption limit). This shall apply if a delivery term of more than four months is agreed or delivery takes place more than four months after conclusion of the contract for valid reasons outside of the Buyer's control. The preceding provision shall apply for price increases of up to 10%. For greater price adjustments, a new price agreement is required. If the aforementioned comparison price has increased by more than 25% and neither parties agree to a price increase, the Supplier is entitled to withdraw from the contract. The Customer shall have no further rights in this case.

4. Payment terms

- 4.1 Payments are payable upon receipt of invoice and without deduction. Payments made to the Supplier's account within 8 days of receipt of invoice shall receive a 2% discount provided the Buyer is not in default in respect of payment for goods. The Supplier is entitled to send the Customer invoices electronically, i.e. via email.
- 6.2 Should the Supplier become aware after conclusion of the contract of a material adverse change on the part of the Buyer which may endanger his chances of claiming payment, up to the time of his delivery or providing the service agreed he may require the lodgement of a suitable guarantee within a reasonable period or provide his service step-by-step pursuant to Section 232 Para. 1 BGB. The Buyer can assign a qualified guarantor to act as security, to guarantee any claims as a primary liability and who is available for immediate consultation. If the Buyer does not satisfy the Supplier's justifiable demand or does not do so within a reasonable time, the Supplier may terminate the contract. In the event of termination of the contract, the Supplier shall be reimbursed for any preliminary work at the fair market value.
- 4.3 If the Buyer does not make payment in time, despite warning, the Supplier is entitled to discontinue all orders placed by the Buyer in addition to claim to performance and/or other legal or contractual rights.

5. Shipping and transfer of risk

- 5.1 Shipping takes place ex-works. Unless otherwise agreed, the Supplier is not obliged to choose the cheapest shipping option.
- 5.2 Risk shall be transferred to the Customer once the goods have been received by the ordering party. If goods are ready to ship and shipment or space allocation are delayed for reasons outside of the Supplier's control, the risk shall pass to the Buyer upon receipt of notification of readiness for dispatch.

6. Industrial property rights

- 6.1 Any images, drawings and other documents shall remain the property of the Supplier and subject to copyright law; they may not be made available to third parties without the Supplier's consent and must be returned immediately upon request.
- 6.2 If the production of goods based on drawings, samples or other information from Buyer violates the intellectual property rights of third parties, then the Buyer is obligated to release the Supplier from all claims or to compensate him for the damage that he claims to have suffered.

7. Retention of title

- .1 The Supplier reserves the title to the delivered goods until all claims have been settled with the Buyer (reserved goods). In the case of payment by means of cheque or bill of exchange, title to the goods is retained until the bill is cleared by the Customer. Cheques will only be accepted on condition of fulfilment and not instead of performance. In the case of current accounts, the retention of title will serve to balance the Supplier's claims. The Buyer is obliged to appropriately insure the reserved goods, at their own expense, against all common risks, particularly fire and theft, and submit proof upon request.
- 7.2 Acquisition of ownership by the Buyer pursuant to Section 950 BGB is not permitted. A potential connection, mixing, filling or manufacturing and processing of the reserved goods with other goods not belonging to the Supplier may take place in the knowledge that the Supplier shall acquire joint property rights of the new item whereby the invoice value of the reserved goods shall correspond to the overall sales value of the new item. The new item shall therefore be considered as reserved goods for the purpose of these conditions and will be stored by the Buyer for the Supplier. Should the Buyer acquire sole ownership of the new item, he shall transfer the co-ownership share to the Supplier in respect of the value of the processed reserved goods.
- 7.3 The Buyer may only sell the reserved goods in the normal course of business and provided he is not in default. The Buyer shall now assign all claims to the Supplier arising as a result of resale to third parties. This assignment occurs only on account of performance. This assignment extends to all future existing claims concerning resale of the reserved goods. If the reserved goods to which we have title are sold by the Buyer together with other goods not delivered or in a processed state by the Supplier, then the receivables ceded to us from the resale will not exceed the invoice value for the reserved goods. In the event of resale of new items of which the Supplier has acquired joint ownership, then the receivables ceded to us shall be the value of the coownership share. The assigned claims will serve as security to the Supplier's claims to the same extent as the reserved goods.
- 7.4 The Buyer himself may collect the assigned claims provided he has complied with the payment terms of the business relationship, is not in default and is not subject to insolvency proceedings.

Ahrensburg 2015



BeA Autotec

Joh. Friedrich Behrens AG Industrial Fastening Systems

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